Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (currently amended) A method of identifying homologous recombination in plant cells, the method comprising:

contacting a plurality of plant cells with a heterologous nucleic acid molecule comprising a fusion polynucleotide comprising a nucleotide sequence encoding a polypeptide sequence of interest ~~that targets an endogenous gene~~ linked to a reporter sequence, wherein the nucleotide sequence encoding the polypeptide sequence of interest targets an endogenous gene and wherein the nucleic acid molecule lacks sequences necessary for expression of the fusion polynucleotide gene product in a cell; and

detecting the presence of the reporter activity in the plant cells, thereby identifying plant cells in which homologous recombination has occurred between the introduced heterologous nucleic acid molecule and endogenous plant DNA.

2. (original) The method of claim 1, wherein the step of contacting is carried out using a T-DNA vector.

3. (original) The method of claim 1, further comprising the step of regenerating plants from the plant cells before the step of detecting the presence of the fusion sequence gene product.

4. (original) The method of claim 1, wherein the reporter sequence is non-selective.

5. (original) The method of claim 4, wherein the non-selective reporter sequence encodes luciferase.

6. (original) The method of claim 5, wherein the step of detecting is carried out using video imaging equipment.

7. (original) The method of claim 1, wherein the plant cell is Arabidopsis.

Claims 8-31 Cancelled

32. (new) The method of claim 1, further comprising introducing a selectable marker into the plant cells and performing a selection step to identify plants having the selectable marker.

33. (new) The method of claim 32, wherein the selectable marker is encoded by a nucleic acid sequence comprised by the heterologous nucleic acid molecule.